Peer Review File

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Review comments

Reviewer A

5 autocitations on 25 literature references seem too much to this reviewer! This can easily be changed!

We reduced the autocitations.

Otherwise very nice study, although this is a retrospective one! But this particularity is well recognised in the manuscript

Reviewer B

This manuscript describes a study that will be of interest to the FOMM readership. It investigates the effects of dental implant abutment geometry and location on failure rate and marginal bone loss. Although the results are not surprising and confirm what would be expected intuitively and based on previous computer simulations, it is important to publish actual clinical observations that verify the expected behavior. This manuscript contains such observations. It was excellently written!

This reviewer has only one scientific concern (about statistical analysis methods) and has only a few minor grammatical and layout concerns:

Page 3, Line 6: "a retrospective analysis" The first letter of this sentence should be capitalized. This detail was changed by “A retrospective analysis”.

Page 3, Line 12: "2 vs 3mm" Here and in other locations throughout the manuscript, a space should be inserted between the numeral and its units of measurement. This detail was changed in all the text.

Page 3, Line 17: "The average marginal bone loss was -0,24 (0,89) mm" Consider using a more specific term such as "mean" instead of the more general "average". Also, please specify whether the 0,89 is a standard deviation. This detail was modified by “The mean marginal bone loss was -0,24 (0,89SD) mm”. The word “average” was changed by “mean” in all the text.

Page 3, Line 19: "2 and 3-mm" Here and in other locations throughout the manuscript, the hyphen between the numeral and the units of measurement should be replaced with a space. The hyphen should only be used when the units are not abbreviated.

This detail was changed in all the text.

Page 5, Line 21: "due to biomechanical needs" Please be more specific here.

This sentence was specified: (the area of the screw that fixes the multi units to the implant is wider enough to withstand the outside of the occlusion.)

Page 9, Lines 6-9: "The t-test is used to detect differences in parametric variables if the normality hypothesis is accepted. Otherwise..."

The manuscript should not leave the statistical analysis method in conditional terms but should specify whether the data were found to be normally distributed and for certain which test (t-test or Mann Whitney U) was used. Also, consider the possibility of using stepwise multiple linear regression instead. That would control for the other factors when evaluating the significance of each factor, would provide relative estimates of effect magnitude, and would allow for detecting interactive effects. Neither t-test nor Mann Whitney U provide those possibilities.

This modification was done. Simple general linear models will be applied to assess whether the mean MBL at a certain time-point is similar at different levels of a factor (gender, age, implant position and abutment angulation and abutment height). Subsequently, the factors detected as influential ($p < 0.1$) will be incorporated into a multiple regression model and thus obtain adjusted beta coefficients. These models are estimated under the generalized estimation equations (GEE) approach to control the dependence of the observations due to the multiplicity of implants per patient. The Chi2 statistic of Wald will be used to evaluate main effects and interactions. RESULTS: According to the simple and multiple regression analysis, the only factor that influenced significantly on marginal bone loss at 6 months was the gender ($p=0,008$) (Table 8). Women had less bone loss than men. At 12 months (Table 9), the only factor that had a significant influence was age ($p=0,014$). The younger patients showed greater marginal bone loss. The implant position, the abutment inclination and the abutment height did not significantly influence bone loss either at 6 or 12 months. The multiple interaction models do not show statistically significant interactions among factors. Table 8 and 9 were added too.

Figures 1 and 2: These figures are not necessary.

The authors consider the Figures 1 and 2 are very important for the understanding of the article by the readers. The images show in great detail the surgical and prosthetic procedures that all the included patients have been undergone. If we remove the figures, the article would lose value.